

NONAQUEOUS ELECTROLYTE AND NONAQUEOUS ELECTROLYTE SECODARY BATTERY (11-260401)**Publication Number:** JP 11260401 A, September 24, 1999**Inventors:**

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- H01M-010/40

Abstract:

PROBLEM TO BE SOLVED: To improve incombustibility, a generated voltage and battery charge/discharge performances by including a specific vinylene carbonate derivative and a phosphate compound in a nonaqueous solvent formed together with an electrolyte. **SOLUTION:** A vinylene carbonate derivative is shown by a formula and included by 0.001 wt.% or more, preferably 0.1-5 wt.%. A phosphate compound, added by 0.1 wt.% or more for imparting incombustibility, has preferably an alkyl group or a fluorine-substituted alkyl group or the like having a carbon number of one to six, especially preferably trimethyl phosphate. Besides, charge/ discharge efficiencies and load characteristics are improved, and also electric conductivity of an electrolyte and self-quenching property are improved, by including one or more cyclic or chain carbonic acid ester in a nonaqueous solvent. Preferably, lithium or the like is used as a negative-electrode active material, and a complex oxide of lithium and a transition metal is used as a positive-electrode active material. [In the formula, R1 and R2 are hydrogen or 1-3C alkyl groups, and may be the same].

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